REMARKS

The Official Action dated January 11, 2001 has been carefully considered. Accordingly, the changes presented herewith, taken with the following remarks, are believed sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

By present Amendment, the specification has been amended to correct several typographical errors, care having been exercised to avoid any introduction of new matter. In addition, claims 4-13 have been amended for matters of form.

Attached hereto is a **"Version With Markings to Show Changes Made"** showing the changes made to the specification and claims by the current amendment. Since these changes are believed to be fully supported by the specification and claims as originally filed and no new matter is intended or believed to be involved, entry is believed to be in order and is respectfully requested.

In the Official Action, the Examiner has asserted that the claims are directed to more than one species of the generic invention, and has required an election of a single disclosed species of a hair styling composition. The Examiner has further required Applicant to identify the claims that correspond to the election. Applicant hereby affirms the provisional election of YUKAFORMER SM, polyquaternium-4, a homopolymer of acrylic acid and water. Applicant submits that claims 1-13 read on the elected species. It is believed that this represents a complete response to the election of species requirement.

I. Claim Objections.

In the Official Action, the Examiner has objected to the Specification for failing to properly identify the trademarks: DIAFORMER, MARSPARSE, GAFQUAT, TETEN, CATREX, INDOPOL and KATHON. Applicant has amended the Specification to capitalize trade names/trademarks at each occurrence. It is therefore believed that this objection to the Specification has been overcome. Reconsideration is respectfully requested.

In the Official Action, claims 4-13 were objected to for failing to begin the dependent claims with a "The". Claims 4-13 have been amended to replace "A" with "The" in order to overcome the Examiner's objection. Reconsideration is respectfully requested.

II. Rejections Under 35 U.S.C. §112.

In the Official Action, claims 1-13 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner asserted that claims 1-13 are indefinite because Examples 2 and 4 of the specification appear to fall outside of the amounts of the anionic, cationic and amphoteric polymers set forth in claim 1. The Examiner concluded that it is uncertain what is and what is not subject matter which Applicant regards as his invention.

However, as will be set forth in detail below, it is believed that the compositions defined by present claims 1-13 are definite in accordance with the requirements of 35 U.S.C. §112, second paragraph. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

The content of Applicant's specification cannot be used as evidence that the scope of the claims is inconsistent with the subject matter which Applicant regards as his invention. As noted in *In re Ehrreich*, 590 F.2d 902, 200 USPQ 504 (CCPA 1979), agreement, or lack thereof, between the claims and the specification is properly considered only with respect to 35 U.S.C. §112, first paragraph; it is irrelevant to compliance with the second paragraph of that section. Thus, the rejection under 35 U.S.C. §112, second paragraph, is improper and reconsideration is respectfully requested. Moreover, the limitations of claim 1 are fully supported by the specification as filed, for example at pages 2, 3, 7, 10 and 20-22. Applicant also submits that 35 U.S.C. §112 does not require that each and every example be literally encompassed by the claims. Finally, with respect to claim 7, the Examiner asserted that the phrase "such that" renders claim 7 indefinite. Applicant has replaced "such that" with

"wherein."

It is therefore submitted that claims 1-13 are definite in accordance with the requirements of 35 U.S.C. §112, second paragraph, whereby this rejection has been overcome. Reconsideration is respectfully requested.

III. Rejections Under 35 U.S.C. §103.

In the Official Action, claims 1-13 were rejected under 35 U.S.C. §103(a) as being obvious over Grollier et al. (U.S. Patent No. 4,240,450). The Examiner asserted that Grollier et al. teach hair treatment compositions containing 0.01% to 10%, by weight, anionic polymers, 0.01% to 10%, by weight, cationic polymers, and optionally amphoteric polymers and non-ionic surfactants. The Examiner also asserted that Grollier et al. teach that the compositions can be formulated as hair sprays. The Examiner concluded that it would have been obvious to arrive at the various amounts of amphoteric, cationic and anionic polymers and non-ionic surfactants through optimization of the prior art values depending on the desired characteristics of the composition.

However, as will be set forth in detail below, it is submitted that claims 1-13 are nonobvious over and patentably distinguishable from the teachings of Grollier et al. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

As set forth in the present specification, for example on page 2, Applicant has discovered that hair styling compositions which comprise anionic, cationic and amphoteric polymers, at levels and ratios as defined by the present claims, in combination with a solvent can provide for improved flexible and good holding film texture.

As defined by claim 1, the present invention is directed to hair styling compositions comprising (a) from about 0.2% to about 5% of an amphoteric polymer; (b) from about 0.2% to about 5% of an anionic polymer, (c) from about 0.2% to about 5% of a cationic polymer; and (d) a solvent, wherein the total of components (a), (b), and (c) is from about 0.6% to

about 15% by weight of the concentrate, and wherein the level of the component comprised at the lowest level among components (a), (b) and (c) is at least 5% of that of the component comprised at the highest level among components (a), (b), and (c).

Grollier et al disclose compositions for the treatment of keratin material, in particular human hair, skin and nails, comprising a combination of a cationic polymer with an anionic polymer. However, Applicants find no teaching in Grollier et al relating to compositions as defined in claim 1 and containing (a) from about 0.2% to about 5% of an amphoteric polymer; (b) from about 0.2% to about 5% of an anionic polymer, (c) from about 0.2% to about 5% of a cationic polymer; and (d) a solvent, wherein the total of components (a), (b), and (c) is from about 0.6% to about 15% by weight of the concentrate, and wherein the level of the component comprised at the lowest level among components (a), (b) and (c) is at least 5% of that of the component comprised at the highest level among components (a), (b), and (c).

Although Grollier et al disclose compositions that "may contain" the combination of cationic polymer, anionic polymer and amphoteric polymer, there is no specific teaching of compositions as defined by claim 1. In fact, Applicant does not find any teaching in Grollier et al of compositions that employ a blend of the three types of polymers, particularly at the levels and ratios as required by the present claims.

The mere listing by Grollier et al of compositions that "may contain" the combination of cationic polymer, anionic polymer and amphoteric polymer does not teach or suggest a composition as defined by claim 1. At best, in view of these disclosures, one skilled in the art might find it obvious to try various combinations of the numerous ingredients set forth therein. However, "obvious to try" is not the standard for patentability, *In re Geiger*, 2 U.S.P.Q.2d 1276 (Fed.Cir. 1987); *In re O'Farroll*, 7 U.S.P.Q.2d 1673 (Fed. Cir. 1988). Furthermore, Applicant

finds no teaching or suggestion by Grollier et al that providing a blend of polymers as presently claimed would provide compositions exhibiting flexible and good holding film texture mildness. The mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification, *In re Mills*, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); *In re Fritch*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). Applicant finds no such suggestion of desirability.

To establish *prima face* obviousness of the claimed invention, all of the claim limitations must be taught or suggested by the prior art, *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). Grollier et al do not teach or suggest compositions as defined by the present claims. Similarly, Applicant finds no teaching or suggestion for modifying any teachings of Grollier et al to result in the compositions as defined by the present claims.

It is therefore submitted that the compositions defined by claims 1-13 are nonobvious over and patentably distinguishable from Grollier et al, whereby the rejection under 35 U.S.C. §103 has been overcome. Reconsideration is respectfully requested.

In the Official Action, claims 1-13 were rejected under 35 U.S.C. §103(a) as being obvious over Kajino et al. (U.S. Patent No. 5,254,323). The Examiner asserted that Kajino et al. teach a hair treatment composition comprising a combination of amphoteric, cationic and anionic polymers, solvent, and a non-ionic surfactant, when the polymers are preferably used in an amount of from 0.01% to 10%, by weight, and the non-ionic surfactants are those commonly used in the field of cosmetics. The Examiner noted that Kajino et al. does not disclose the combination of amphoteric, cationic and anionic polymers in the specified amounts. The Examiner concluded that it would have been obvious to arrive at various amounts of the components through optimization of the prior art values based on the desired characteristics of the composition. In addition, the Examiner concluded that it one of ordinary skill in the art would have been motivated to modify the prior art as above with the

expectation of formulating a hair treatment composition that imparts of good feeling to hair and is safe to hair and skin.

However, as will be set forth in detail below, it is submitted that claims 1-13 are nonobvious over and patentably distinguishable from the teachings of Kajino et al. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

Kajino et al disclose hair dye compositions which comprise (a) an acidic dye, (b) 2-benzyloxyethanol and (c) a water-soluble polymer compound. However, Applicants find no teaching in Kajino et al relating to compositions as defined in claim 1 and containing (a) from about 0.2% to about 5% of an amphoteric polymer; (b) from about 0.2% to about 5% of an anionic polymer, (c) from about 0.2% to about 5% of a cationic polymer; and (d) a solvent, wherein the total of components (a), (b), and (c) is from about 0.6% to about 15% by weight of the concentrate, and wherein the level of the component comprised at the lowest level among components (a), (b) and (c) is at least 5% of that of the component comprised at the highest level among components (a), (b), and (c).

Although Kajino et al disclose compositions containing one or more polymers selected from the group consisting of anionic polymers, cationic polymers and amphoteric polymers, bination of cationic polymer, anionic polymer and amphoteric polymer, there is no specific teaching of compositions as defined by claim 1. In fact, Applicant does not find any teaching in Kajino et al of compositions that employ a blend of the three types of polymers, particularly at the levels and ratios as required by the present claims.

The mere listing by Kajino et al of compositions that contain the combination of cationic polymer, anionic polymer and amphoteric polymer does not teach or suggest a composition as defined by claim 1. At best, in view of these disclosures, one skilled in the art might find it obvious to try various combinations of the numerous ingredients set forth

therein. However, "obvious to try" is not the standard for patentability, *In re Geiger*, 2 U.S.P.Q.2d 1276 (Fed.Cir. 1987); *In re O'Farroll*, 7 U.S.P.Q.2d 1673 (Fed. Cir. 1988). Furthermore, Applicant finds no teaching or suggestion by Kajino et al that providing a blend of polymers as presently claimed would provide compositions exhibiting flexible and good holding film texture mildness. The mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification, *In re Mills*, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); *In re Fritch*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). Applicant finds no such suggestion of desirability.

To establish *prima face* obviousness of the claimed invention, all of the claim limitations must be taught or suggested by the prior art, *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). Kajino et al do not teach or suggest compositions as defined by the present claims. Similarly, Applicant finds no teaching or suggestion for modifying any teachings of Kajino et al to result in the compositions as defined by the present claims.

It is therefore submitted that the compositions defined by claims 1-13 are nonobvious over and patentably distinguishable from Kajino et al, whereby the rejection under 35 U.S.C. §103 has been overcome. Reconsideration is respectfully requested.

It is believed that the above represents a complete response to the Examiner's rejections under 35 U.S.C. §§'s 103 and 112 and places the present application in condition for allowance. Reconsideration and early allowance are respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at line 30 of page 4 has been amended as follows:

--A particularly preferred polymer is the copolymer containing units of the formulae (I), (II) and (III) in which Y denotes an oxygen atom, R^2 denotes the group $-C_2H_4-$, R^1, R^3 and R^4 denote methyl, R^5 denotes an alkyl group having 4 to 18 carbon atoms and R^6 denotes an alkyl group having 1 to 3 carbon atoms. The average molecular weight of this polymer is preferably from 70,000 to 90,000. This polymer is sold under the trademark YUKAFORMER or ["Diaformer"] DIAFORMER supplied by Mitsubishi Chemical Corporation.--

Paragraph beginning at line 1 of page 9 has been amended as follows::

--iii) Alkali metal or alkaline earth metal salts of sulphonic acids derived from lignin, and more particularly calcium lignosulphonates or sodium lignosulphonates, such as the product sold under the name [Marasperse] MARASPERSE C-21 by American Can Co. and the C_{10} to C_{14} products sold by Avebene.--

Section beginning at line 7 of page 10 has been amended as follows:

--(1) Vinylpyrrolidone / quaternized dialkylaminoalkyl acrylate or methacrylate copolymers such as those sold under the trade name [Gafquat] GAFQUAT 734 and 755N by the Gaf Corp.--

Paragraph beginning at line 6 of page 15 has been amended as follows:

--Useful polymers are Quaternium 38, 37, 49 and 42 in the CTFA, acrylamide/beta-methacryloyloxyethyl-trimethylammonium methosulphate copolymers sold under the names TETEN 205, 210, 220 and 240 by Hercules, and aminoethylacrylate phosphate/acrylate [copolymer] copolymers sold under the name CATREX by National Starch and Chemicals, and the crosslinked graft cationic copolymers having a molecular weight of 10,000 to 1,000,000, and preferably a 15,000 to 500,000, and resulting from copolymerisation of: at least one cosmetic monomer, dimethylaminoethyl methacrylate, polyethylene glycol and a polyunsaturated crosslinking agent, such as those mentioned in the CTFA dictionary under the name AMODIMETHICONE, such as the product marketed as a mixture with other ingredients under the name DOW CORNING 929 cationic emulsion.--

Paragraph beginning at line 1 of page 19 has been amended as follows:

--Also encompassed herein are polymeric hydrocarbons of alkenyl monomers, such as polymers of C_2-C_6 alkenyl monomers. These polymers can be straight or branched chain polymers. The straight chain polymers will typically be relatively short in length, having a total number of carbon atoms as described above in this paragraph. The branched chain polymers can have substantially higher chain lengths. The number average molecular weight of such materials can vary widely, but will typically be up to about 500, preferably from about 200 to about 400, and more preferably from about 300 to about 350. Also useful herein are the various grades of mineral oils. Mineral oils are liquid mixtures of hydrocarbons that are obtained from petroleum. Specific examples of suitable hydrocarbon materials include paraffin oil, mineral oil, dodecane, isododecane, hexadecane, isohexadecane, eicosene, isoeicosene, tridecane, tetradecane, polybutene, polyisobutene, and mixtures thereof.

Isododecane, isohexadeance, and isoeicosene are commercially available as PERMETHYL 99A, PERMETHYL 101A, and PERMETHYL 1082, from Presperse, South Plainfield, NJ. A copolymer of isobutene and normal butene is commercially available as [Indopol] INDOPOL H-100 from Amoco Chemicals. Preferred for use herein are hydrocarbon conditioning agents selected from the group consisting of mineral oil, isododecane, isohexadecane, polybutene, polyisobutene, and mixtures thereof. When included, these conditioning agents are comprised at a level by weight of from about 0.01% to about 2% of the concentrate.--

Paragraph beginning at line 26 of page 19 has been amended as follows:

--Non-limiting examples of preservatives useful in the present invention are DMDM Hydantoin (dimethylol dimethyl hydantoin), [Kathon] KATHON CG®, (mixture of methylchloro-isothiazolinone and methyl isothiazolinone), imidazolidinyl urea, phenoxyethanol, EDTA and its salts, benzyl alcohol, and parabens such as methyl paraben, propyl paraben, butyl paraben, and [Liquapar] LIQUAPAR® oil (mixture of isobutyl paraben, isopropyl paraben, and butyl paraben).--

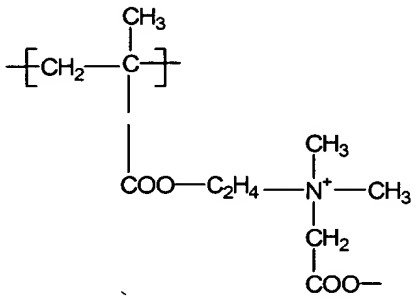
Paragraph beginning at line 21 of page 21 has been amended as follows:

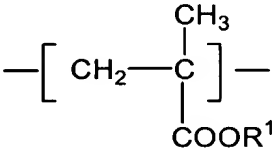
--Examples I and II are mousse composition embodiments, and Examples III and IV are hair spray composition embodiments of the present invention which can be prepared by any conventional method well known in the art. [a] A suitable method is as follows:--

In the Claims:

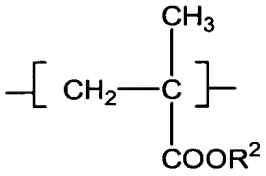
Please amend claims 4-13 as follows:

4. (Amended) [A] The hair styling composition according to Claim 1, wherein said amphoteric polymer comprises units selected from the group consisting of:

(a) 

(b) 

wherein R^1 denotes an alkyl group having 4 to 18 carbon atoms;

(c) 

wherein R^2 denotes an alkyl group having 1 to 3 carbon atoms; and

(d) mixtures thereof.

5. (Amended) [A] The hair styling composition according to Claim 4, wherein said amphoteric polymer comprises, relative to the total weight of said polymer:

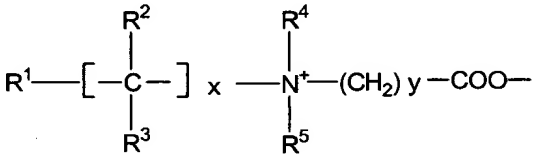
(a) from about 25% to about 45% by weight, of units designated "a";

(b) from about 5% to about 65% by weight, of units designated "b";

(c) and from about 0% to about 50% by weight, of units "c".

6. (Amended) [A] The hair styling composition according to Claim 5, wherein said amphoteric polymer has an average molecular weight from about 70,000 to about 90,000.

7. (Amended) [A] The hair styling composition according to Claim 1, wherein said amphoteric polymer comprises zwitterionic units which conform to the following formula:



wherein R^1 denotes a polymerizable unsaturated group, selected from the group consisting of acrylate, methacrylate, acrylamide and methacrylamide;

wherein x and y independently denote an integer from 1 to 3;

wherein R^2 and R^3 independently denote hydrogen, methyl, ethyl or propyl;

and wherein R^4 and R^5 independently denote a hydrogen atom or an alkyl radical [such that] wherein the sum of the carbon atoms in R^4 and R^5 does not exceed 10.

8. (Amended) [A] The hair styling composition according to Claim 1, wherein said anionic polymer is selected from the group consisting of homopolymers of acrylic acid, homopolymers of methacrylic acid, copolymer of acrylic acid, copolymers of methacrylic acid, and salts thereof.

9. (Amended) [A] The hair styling composition according to Claim 1, wherein said cationic polymer is selected from the group consisting of dimethyldiallylammonium chloride homopolymer, dimethyldiallyammonium chloride/acrylamide copolymer, and mixtures thereof.

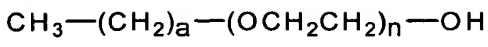
10. (Amended) [A] The hair styling composition according to Claim 1, wherein said cationic polymer is selected from the group consisting of quaternium-37, quaternium-38, quaternium-42, quaternium-49; and mixtures thereof.

11. (Amended) [A] The hair styling composition according to Claim 1, wherein said cationic polymer is polyquaternium-4.

12. (Amended) [A] The hair styling composition according to Claim 1, wherein said solvent is selected from the group consisting of water, C_1 to C_6 alcohols, propylene glycol, hexylene glycol, glycerin, propane-diol, and mixtures thereof.

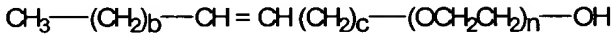
13. (Amended) [A] The hair styling composition according to Claim 1, further comprising a non-ionic surfactant selected from the group consisting of:

(a) Polyoxyethylene alkyl ethers of alkyl alcohols having the following structure:



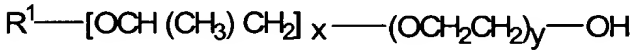
wherein a has an average value of from 9 to 21; and n has an average value from 2 to 200;

(b) Polyoxyethylene alkenyl ethers having the following structure:



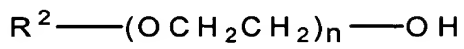
wherein b has an average from 1 to 10; c has an average value from 1 to 10; and n has a n average value from 2 to 200;

(c) Polyoxypropylene polyoxyethylene alkyl or alkenyl or iso-alkyl or iso-alkenyl or dimethylpolysiloxane ether having the following structure:

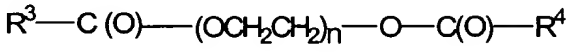


wherein R^1 is selected from the group consisting of alkyl, alkenyl, iso-alkyl alkenyl, and dimethylpolysiloxane derivatives; x has an average value from 2 to 100; and y has an average value from 2 to 100;

(d) Polyoxyethylene long chain alkyl fatty acid or benzene derivative ethers having the following structure:

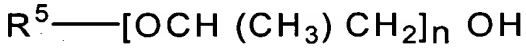


(e) Polyoxyethylene alkyl, or alkenyl ethers having the following structure:



wherein R^3 and R^4 are independently selected from the group consisting of alkyl, iso-alkyl, and alkenyl; and n has an average value from 2 to 200;

(f) Polyoxypropylene alkyl, iso-alkenyl or long chain fatty acid ethers having the following structure:



wherein R^5 is selected from the group consisting of alkyl, iso-alkyl and alkenyl; and n has an average value of 2 to 200; and

(g) mixtures thereof.